



LEGEND
 - - - - - PROPERTY LINE
 - - - - - FENCE
 - - - - - DRAINAGE DIVIDE



DA 8
1.00
7.99
DRAINAGE AREA ID
AREA IN ACRES
Q₁₀₀ IN CUBIC FEET PER SECOND

DA 8
1.00
7.99
PROPOSED DRAINAGE AREA ID
AREA IN ACRES
Q₁₀₀ IN CUBIC FEET PER SECOND

EXISTING DRAINAGE CRITERIA:
 $Q = C(I)(A)$

DRAINAGE AREA No.	AREA (acres)	C	Tc (minutes)	STORM FREQUENCY	I ₁₀₀ (inch/hour)	Q ₁₀₀ (cfs)	STORM FREQUENCY	I ₂₅ (inch/hour)	Q ₂₅ (cfs)	STORM FREQUENCY	I ₁₀ (inch/hour)	Q ₁₀ (cfs)	STORM FREQUENCY	I ₅ (inch/hour)	Q ₅ (cfs)	REMARKS
DA #1	14.72	0.35	20.00	100 YEAR	8.30	42.76	25 YEAR	6.70	34.52	10 YEAR	5.90	30.40	5 YEAR	4.90	25.24	EAST POND
DA #2	2.51	0.35	20.00	100 YEAR	8.30	7.29	25 YEAR	6.70	5.89	10 YEAR	5.90	5.18	5 YEAR	4.90	4.30	EAST POND
DA #3	1.94	0.90	10.00	100 YEAR	9.80	17.11	25 YEAR	8.30	14.49	10 YEAR	7.10	12.40	5 YEAR	6.20	10.83	EAST POND
DA #4	1.73	0.90	10.00	100 YEAR	9.80	15.26	25 YEAR	8.30	12.92	10 YEAR	7.10	11.05	5 YEAR	6.20	9.65	EAST POND
DA #5	3.21	0.35	20.00	100 YEAR	8.30	9.33	25 YEAR	6.70	7.53	10 YEAR	5.90	6.63	5 YEAR	4.90	5.51	DA #3
DA #6	1.90	0.35	20.00	100 YEAR	8.30	5.52	25 YEAR	6.70	4.46	10 YEAR	5.90	3.92	5 YEAR	4.90	3.26	EAST POND
DA #7	11.22	0.35	20.00	100 YEAR	8.30	32.59	25 YEAR	6.70	26.31	10 YEAR	5.90	23.17	5 YEAR	4.90	19.24	
DA #8	1.53	0.35	20.00	100 YEAR	8.30	4.44	25 YEAR	6.70	3.59	10 YEAR	5.90	3.16	5 YEAR	4.90	2.62	
TOTAL	38.76				TOTAL	134.31		TOTAL	109.70		TOTAL	95.91		TOTAL	80.66	

PROPOSED DRAINAGE CRITERIA:
 $Q = C(I)(A)$

DRAINAGE AREA No.	AREA (acres)	C	Tc (minutes)	STORM FREQUENCY	I ₁₀₀ (inch/hour)	Q ₁₀₀ (cfs)	STORM FREQUENCY	I ₂₅ (inch/hour)	Q ₂₅ (cfs)	STORM FREQUENCY	I ₁₀ (inch/hour)	Q ₁₀ (cfs)	STORM FREQUENCY	I ₅ (inch/hour)	Q ₅ (cfs)	REMARKS
DA #1	14.72	0.90	10.00	100 YEAR	9.80	129.83	25 YEAR	8.30	109.96	10 YEAR	7.10	94.06	5 YEAR	6.20	82.14	EAST POND
DA #2	2.51	0.90	10.00	100 YEAR	9.80	22.14	25 YEAR	8.30	18.75	10 YEAR	7.10	16.04	5 YEAR	6.20	14.01	EAST POND
DA #3	1.94	0.90	10.00	100 YEAR	9.80	17.11	25 YEAR	8.30	14.49	10 YEAR	7.10	12.40	5 YEAR	6.20	10.83	EAST POND
DA #4	1.73	0.90	10.00	100 YEAR	9.80	15.26	25 YEAR	8.30	12.92	10 YEAR	7.10	11.05	5 YEAR	6.20	9.65	EAST POND
DA #5	3.21	0.35	20.00	100 YEAR	8.30	9.33	25 YEAR	6.70	7.53	10 YEAR	5.90	6.63	5 YEAR	4.90	5.51	DA #3
DA #6	1.90	0.90	10.00	100 YEAR	9.80	16.76	25 YEAR	8.30	14.19	10 YEAR	7.10	12.14	5 YEAR	6.20	10.60	EAST POND
TOTAL	26.01				TOTAL	210.42		TOTAL	177.84		TOTAL	152.32		TOTAL	132.73	

100 YEAR STORM EVENT EAST DETENTION POND ALLOWABLE DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.34$ Acres (DA 1, 2, 5, & 6) 85.9%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{100} = 8.30$ in/hr
 $Q_{100} = 64.90$ cfs (UNDEVELOPED)
 $A = 3.67$ Acres (DA 3 & 4) 14.1%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{100} = 9.80$ in/hr
 $Q_{100} = 32.37$ cfs (DEVELOPED)
TOTAL Q = 97.27 cfs (ALLOWABLE DISCHARGE)

25 YEAR STORM EVENT EAST DETENTION POND EXISTING DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.34$ Acres (DA 1, 2, 5, & 6) 85.9%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{25} = 6.70$ in/hr
 $Q_{25} = 52.39$ cfs (UNDEVELOPED)
 $A = 3.67$ Acres (DA 3 & 4) 14.1%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{25} = 8.30$ in/hr
 $Q_{25} = 27.41$ cfs (DEVELOPED)
TOTAL Q = 79.80 cfs (ALLOWABLE DISCHARGE)

10 YEAR STORM EVENT EAST DETENTION POND EXISTING DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.34$ Acres (DA 1, 2, 5, & 6) 85.9%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{10} = 5.90$ in/hr
 $Q_{10} = 46.13$ cfs (UNDEVELOPED)
 $A = 3.67$ Acres (DA 3 & 4) 14.1%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{10} = 7.10$ in/hr
 $Q_{10} = 23.45$ cfs (DEVELOPED)
TOTAL Q = 69.58 cfs (ALLOWABLE DISCHARGE)

5 YEAR STORM EVENT EAST DETENTION POND EXISTING DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.34$ Acres (DA 1, 2, 5, & 6) 85.9%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_5 = 4.90$ in/hr
 $Q_5 = 38.31$ cfs (UNDEVELOPED)
 $A = 3.67$ Acres (DA 3 & 4) 14.1%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_5 = 6.20$ in/hr
 $Q_5 = 20.48$ cfs (DEVELOPED)
TOTAL Q = 58.79 cfs (ALLOWABLE DISCHARGE)

PROPOSED DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.80$ Acres (DA 1, 2, 3, 4, & 6) 87.7%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{100} = 9.80$ in/hr
 $Q_{100} = 201.10$ cfs (DEVELOPED)
 $A = 3.21$ Acres (DA 5) 12.3%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{100} = 8.30$ in/hr
 $Q_{100} = 9.33$ cfs (UNDEVELOPED)
TOTAL AREA = 26.01 Acres
ADJUSTED EAST DETENTION C = 0.83
TOTAL Q₁₀₀ = 210.43 cfs (TO EAST DETENTION)
ALLOWABLE Q FROM EAST DETENTION = 97.27 cfs

PROPOSED DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.80$ Acres (DA 1, 2, 3, 4, & 6) 87.7%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{25} = 8.30$ in/hr
 $Q_{25} = 170.32$ cfs (DEVELOPED)
 $A = 3.21$ Acres (DA 5) 12.3%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{25} = 6.70$ in/hr
 $Q_{25} = 7.53$ cfs (UNDEVELOPED)
TOTAL AREA = 26.01 Acres
ADJUSTED EAST DETENTION C = 0.83
TOTAL Q₂₅ = 177.85 cfs (TO EAST DETENTION)
ALLOWABLE Q FROM EAST DETENTION = 79.80 cfs

PROPOSED DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.80$ Acres (DA 1, 2, 3, 4, & 6) 87.7%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_{10} = 7.10$ in/hr
 $Q_{10} = 145.69$ cfs (DEVELOPED)
 $A = 3.21$ Acres (DA 5) 12.3%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_{10} = 5.90$ in/hr
 $Q_{10} = 6.63$ cfs (UNDEVELOPED)
TOTAL AREA = 26.01 Acres
ADJUSTED EAST DETENTION C = 0.83
TOTAL Q₁₀ = 152.32 cfs (TO EAST DETENTION)
ALLOWABLE Q FROM EAST DETENTION = 69.58 cfs

PROPOSED DRAINAGE CRITERIA
 $Q = CIA$
 $A = 22.80$ Acres (DA 1, 2, 3, 4, & 6) 87.7%
 $C = 0.90$
 $Tc = 10$ minutes
 $I_5 = 6.20$ in/hr
 $Q_5 = 127.22$ cfs (DEVELOPED)
 $A = 3.21$ Acres (DA 5) 12.3%
 $C = 0.35$
 $Tc = 20$ minutes
 $I_5 = 4.90$ in/hr
 $Q_5 = 5.51$ cfs (UNDEVELOPED)
TOTAL AREA = 26.01 Acres
ADJUSTED EAST DETENTION C = 0.83
TOTAL Q₅ = 132.73 cfs (TO EAST DETENTION)
ALLOWABLE Q FROM EAST DETENTION = 58.79 cfs

EXIST 7"x3' BOX CULVERT
 DESIGNED Q₁₀₀=165.4 cfs
 PER PLANS PREPARED
 BY: WER & ASSOCIATES
 DATED: 02/02/2015

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 THE SIGNED AND SEALED CONSTRUCTION DOCUMENT HAS BEEN REVISED TO REFLECT CONSTRUCTION RECORDS MAINTAINED AND PROVIDED BY THE CONTRACTOR FOR THIS PROJECT. THE INFORMATION SHOWN ON THIS RECORD DRAWING, WHICH WAS PROVIDED BY THE CONTRACTOR, OR OTHERS NOT ASSOCIATED WITH THE DESIGN ENGINEER, CANNOT BE VERIFIED FOR ACCURACY OR COMPLETENESS. PACHECO KOCH SHALL ASSUME NO LIABILITY FOR ANY CHANGES MADE DURING CONSTRUCTION THAT WERE NOT SPECIFICALLY APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. THE SEALED CONSTRUCTION DRAWINGS ARE ON FILE AT THE OFFICES OF PACHECO KOCH.
 ATTESTED BY: *[Signature]*
 SIGNATURE: _____
 ENGINEER OF RECORD: CHET LEUGERS, P.E.
 CONTRACTOR: MILLER-VALENTINE CONSTRUCTION
 DATE REVISED: 06/08/2017

NO.	DATE	REVISION
06/09/2017	RECORD DRAWINGS	
08/25/2016	ADDED THIS SHEET	

Pacheco Koch
 7557 RAMBLER ROAD, SUITE 1400
 DALLAS, TX 75231 972.235.3031
 TX REG. ENGINEERING FIRM F-14439
 TX REG. SURVEYING FIRM LS-10193805

EAST DETENTION POND DRAINAGE AREA MAP
ROCKWALL MANUFACTURING FACILITY
LOT 1, BLOCK A, ROCKWALL
TECHNOLOGY PARK, PHASE IV
CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CTL	RHB	JULY 2016	1"=100'			C8.2

NELSON
 6/14/2017 12:03 PM
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Rockwall Manufacturing Facility